

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-24. (Cancelled)

25. (Currently Amended) An object A wafer inspection system comprising:
a sensor having comprising an eddy current inspection coil connected to in
communication with a radio frequency generator, and to and an eddy current detector, and the
sensor further comprising a first optical fiber connected to in communication with a light source
to illuminate an object a wafer to be inspected, and the sensor further comprising a second
optical fiber connected to in communication with a light detector to detect light reflected from
from the object wafer; and
an inspection a chamber housing the objectconfigured to house the wafer; and
a positioner configured to provide relative movement between the sensor and the wafer,
the positioner comprising a positioning arm on which the sensor is disposed.

26. (Currently Amended) An inspection system as claimed in claim 25, wherein the
object is a wafer having includes a film deposited thereon.

27. (Original) An inspection system as claimed in claim 26, wherein said sensor
measures a thickness of said film.

28. (Currently Amended) An inspection system as claimed in claim 27, wherein said
film is comprises a conducting film.

29. (Currently Amended) An inspection system as claimed in claim 27, wherein said film is comprises a dielectric film.

30. (Original) An inspection system as claimed in claim 27, wherein said film comprises a dielectric film and a conducting film.

31. (Currently Amended) An inspection system as claimed in claim 25, wherein the sensor further comprises a modifying member, attached to in optical communication with said first optical fiber, for focusing and configured to focus light from the light source.

32. (Currently Amended) An inspection system as claimed in claim 25, wherein the sensor further comprises a modifying member, attached to in optical communication with said second optical fiber, for focusing and configured to focus light to the light detector.

33. (Original) An inspection system as claimed in claim 25, wherein the first and second optical fibers are disposed parallel to the eddy current inspection coil in said sensor.

34. (Original) An inspection system as claimed in claim 25, wherein the first and second optical fibers are disposed co-axially with the eddy current inspection coil.

35. (Currently Amended) An inspection system as claimed in claim 25, wherein the light source is comprises a laser.

36. (Currently Amended) An inspection system as claimed in claim 35, wherein the light source emits light having comprising light having a wavelength in the range wavelengths from 200 to 1100 nanometers.

37. (Currently Amended) An inspection system as claimed in claim 25, wherein the light source is comprises a broadband light source.

38. (Currently Amended) An inspection system as claimed in claim 25, wherein the light detector is comprises a charge coupled device.

39. (Currently Amended) An inspection system as claimed in claim 25, wherein the light detector is comprises a photodiode array.

40. (Canceled)

41. (Canceled)

42. (Currently Amended) An inspection system as claimed in claim 4125, wherein the positioning means positioner further comprises an apparatus for tilting the sensor at an angle with respect to the wafer.

43. (Currently Amended) An inspection system as claimed in claim 4125, wherein the positioning means positioner further comprises a positioning turntable on which the wafer is disposed.

44. (Original) An inspection system as claimed in claim 25, wherein said system comprises more than one said sensor.

45. (New) A semiconductor processing system comprising:
a substrate positioner configured to position a semiconductor substrate in the processing system;
a sensor positioning system configured to position one or more sensors including a first

sensor relative to the substrate, the sensor positioning system comprising a positioning arm; and wherein the first sensor comprises an eddy current monitoring portion and an optical monitoring portion.

46. (New) The system of claim 45, wherein the positioning arm is configured to position the first sensor at a pre-determined distance from the substrate in the substrate positioner.

47. (New) The system of claim 45, further including an eddy current detection system and a light detection system in communication with at least one of the one or more sensors.

48. (New) The system of claim 47, wherein the one or more sensors further comprises a second sensor, and further including a switching system configured to place the first sensor in communication with the eddy current detection system and the light detection system at a first time, and to place the second sensor in communication with the eddy current detection system and the light detection system at a second different time.

49. (New) The system of claim 45, further including the substrate.

50. (New) The system of claim 25, further including the wafer.